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Relevance scale **1** Integrating heterogeneous data sources using the COIL mediator definition language 

Christian Och, Roger King, Richard Osborne

March 2000 **Proceedings of the 2000 ACM symposium on Applied computing**Full text available:  [pdf\(990.44 KB\)](#) Additional Information: [full citation](#), [references](#), [index terms](#)

**Keywords:** CORBA, data source integration and evolution, heterogeneous databases, high-level integration semantics, interoperability, mediators

**2** Human-computer interface development: concepts and systems for its management 

H. Rex Hartson, Deborah Hix

March 1989 **ACM Computing Surveys (CSUR)**, Volume 21 Issue 1Full text available:  [pdf\(7.97 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

*Human-computer interface management*, from a computer science viewpoint, focuses on the process of developing quality human-computer interfaces, including their representation, design, implementation, execution, evaluation, and maintenance. This survey presents important concepts of interface management: dialogue independence, structural modeling, representation, interactive tools, rapid prototyping, development methodologies, and control structures. *Dialogue independence* is th ...

**3** Developing and integrating ProDAG in the Arcadia environment 

Debra J. Richardson, T. Owen O'Malley, Cynthia Tittle Moore, Stephanie Leif Aha

November 1992 **ACM SIGSOFT Software Engineering Notes**, **Proceedings of the fifth ACM SIGSOFT symposium on Software development environments**, Volume 17 Issue 5Full text available:  [pdf\(1.55 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

ProDAG is an analysis toolset that provides an application programmatic interface for program dependence analysis. Program dependences are syntactic relationships between program statements. The ProDAG interface provides a uniform set of operations for creating and accessing several pre-defined dependence relations, which are represented as graphs, as well as a standard mechanism for developing new dependence graphs. ProDAG is one analysis toolset in Arcadia, ProDAG was developed in the Arc ...

**4 PRIME—toward process-integrated modeling environments: 1**

Klaus Pohl, Klaus Weidenhaupt, Ralf Dömges, Peter Haumer, Matthias Jarke, Ralf Klamma  
October 1999 **ACM Transactions on Software Engineering and Methodology (TOSEM)**,  
Volume 8 Issue 4

Full text available:  [pdf\(1.15 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#),  
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Research in process-centered environments (PCEs) has focused on project management support and has neglected method guidance for the engineers performing the (software) engineering process. It has been dominated by the search for suitable process-modeling languages and enactment mechanisms. The consequences of process orientation on the computer-based engineering environments, i.e., the interactive tools used during process performance, have been studied much less. In this article, we present ...

**Keywords:** PRIME, method guidance, process modeling, process-centered environments, process-integrated environments, process-sensitive tools, tool integration, tool modeling

**5 Making sense of software engineering environment framework standards**

Barbara Cuthill  
December 1994 **StandardView**, Volume 2 Issue 4

Full text available:  [pdf\(1.67 MB\)](#)

Additional Information: [full citation](#), [references](#), [index terms](#)

**6 Integrating independent components with on-demand remodularization**

Mira Mezini, Klaus Ostermann  
November 2002 **ACM SIGPLAN Notices, Proceedings of the 17th ACM SIGPLAN conference on Object-oriented programming, systems, languages, and applications**, Volume 37 Issue 11

Full text available:  [pdf\(297.04 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

This paper proposes language concepts that facilitate the separation of an application into independent reusable building blocks and the integration of pre-build generic software components into applications that have been developed by third party vendors. A key element of our approach are *on-demand remodularizations*, meaning that the abstractions and vocabulary of an existing code base are translated into the vocabulary understood by a set of components that are connected by a common ...

**Keywords:** aspect-oriented programming, collaboration-based decomposition, on-demand remodularization

**7 Tool integration in the Pact environment**

Ian Thomas  
May 1989 **Proceedings of the 11th international conference on Software engineering**

Full text available:  [pdf\(1.08 MB\)](#)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

**Keywords:** PCTE, integration, public tool interfaces, software engineering environments, tool components

**8 A demand-driven analyzer for data flow testing at the integration level**

Evelyn Duesterwald, Rajiv Gupta, Mary Lou Soffa

**May 1996 Proceedings of the 18th international conference on Software engineering**

Full text available: [!\[\]\(dfbd6b3763a6d1d9afaa974f64e2e4b5\_img.jpg\) pdf\(1.12 MB\)](#) [!\[\]\(b89ecf30df3dbaee65fa9f1829524a6e\_img.jpg\) Additional Information: full citation, abstract, references, citations, index terms](#)  
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Data-flow testing relies on static analysis for computing the definition-use pairs that serve as the test case requirements for a program. When testing large programs, the individual procedures are first tested in isolation during unit testing. Integration testing is performed to specifically test the procedure interfaces. The procedures in a program are integrated and tested in several steps. Since each integration step requires data-flow analysis to determine the new test requirements, the acc ...

**Keywords:** data flow analysis, data flow testing, definition-use pairs, demand-driven analyzer, exhaustive analyzer, incremental analyzer, incremental data-flow updates, integration testing, large program testing, overhead, performance, program procedure interfaces, program testing, static analysis, test case requirements, unit testing

**9 An interface-based Ada programming support environment** 

Scott A. DeLoach  
July 1988 **ACM SIGAda Ada Letters**, Volume VIII Issue 4

Full text available: [!\[\]\(05be7c7a8995decd503647c99211f7c2\_img.jpg\) pdf\(790.69 KB\)](#) [!\[\]\(16cd6e1a39784ecf52b4db09f4865f40\_img.jpg\) Additional Information: full citation, abstract, references, citations, index terms](#)

Programming Support Environments (PSEs) have recently been the focus of much research directed at producing new methods for developing software more efficiently and reliably. The traditional approach to developing PSEs has been to create a number of novel tools, and then integrate the tools together by adding a common database and modifying the interfaces between the tools until they can work together. Recently, however, it has been recognized that the interfaces between the tools and the rest o ...

**10 UML-Based integration testing** 

Jean Hartmann, Claudio Imoberdorf, Michael Meisinger  
August 2000 **ACM SIGSOFT Software Engineering Notes, Proceedings of the 2000 ACM SIGSOFT international symposium on Software testing and analysis**, Volume 25 Issue 5

Full text available: [!\[\]\(fe3aebe81acea8d45108cd2768939da7\_img.jpg\) pdf\(761.34 KB\)](#) [!\[\]\(0eef4a60de6ea648e23dfa6079e4dd07\_img.jpg\) Additional Information: full citation, abstract, references, citations, index terms](#)

Increasing numbers of software developers are using the Unified Modeling Language (UML) and associated visual modeling tools as a basis for the design and implementation of their distributed, component-based applications. At the same time, it is necessary to test these components, especially during unit and integration testing. At Siemens Corporate Research, we have addressed the issue of testing components by integrating test generation and test execution technology with commerci ...

**Keywords:** COM/DCOM, CORBA, UML statecharts, distributed components, functional testing, test execution, test generation

**11 Interacting with an active, integrated environment** 

Thomas Rodden, Pete Sawyer, Ian Sommerville  
January 1989 **Proceedings of the third ACM SIGSOFT/SIGPLAN software engineering symposium on Practical software development environments**, Volume 24 , 13 Issue 2 , 5

Full text available: [!\[\]\(c1168d6a8b365d11e842ece304635fa7\_img.jpg\) pdf\(1.23 MB\)](#) [!\[\]\(821e2adbc4e694c5a65f45cf90787bff\_img.jpg\) Additional Information: full citation, abstract, references, citations, index terms, review](#)

Software engineering environments are intended to provide a cohesive and integrated set of

tools to support the process of software engineering with much current research into environment design focussed on maximising the degree to which these tools can be integrated. This paper describes the architecture of a prototype environment which attempts to achieve a high degree of integration using techniques drawn from artificial intelligence, office automation and object-oriented program ...

## 12 Design alternatives for user interface management systems based on experience with COUSIN

Philip J. Hayes, Pedro A. Szekely, Richard A. Lerner

April 1985 **Proceedings of the SIGCHI conference on Human factors in computing systems**

Full text available:  [pdf\(738.68 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

User interface management systems (UIMSs) provide user interfaces to application systems based on an abstract definition of the interface required. This approach can provide higher-quality interfaces at a lower construction cost. In this paper we consider three design choices for UIMSs which critically affect the quality of the user interfaces built with a UIMS, and the cost of constructing the interfaces. The choices are examined in terms of a general model of a UIMS. They concern the shar ...

## 13 Low-cost, adaptable tool integration policies for integrated environments

David Garlan, Ehsan Ilias

October 1990 **ACM SIGSOFT Software Engineering Notes , Proceedings of the fourth ACM SIGSOFT symposium on Software development environments**, Volume 15 Issue 6

Full text available:  [pdf\(1.03 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

An important requirement for successful integrated programming environments is support for implicit tool invocation; rather than force a user to explicitly invoke each tool, mechanisms in the environment can take responsibility for guaranteeing that the right tools are invoked at the right times. However, these mechanisms typically intertwine policies of when and how the tools are invoked, with what the tools do when they are invoked. Consequently, adapting the environment to achieve differ ...

## 14 The distributed interoperable object model and its application to large-scale interoperable database systems

Ling Liu, Calton Pu

December 1995 **Proceedings of the fourth international conference on Information and knowledge management**

Full text available:  [pdf\(890.48 KB\)](#)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

## 15 TRW's Ada process model for incremental development of large software systems

W. Royce

February 1990 **Proceedings of the 12th international conference on Software engineering**

Full text available:  [pdf\(1.06 MB\)](#)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

## 16 PELLPACK: a problem-solving environment for PDE-based applications on multicomputer platforms

E. N. Houstis, J. R. Rice, S. Weerawarana, A. C. Catlin, P. Papachliou, K.-Y. Wang, M. Gaitatzes March 1998 **ACM Transactions on Mathematical Software (TOMS)**, Volume 24 Issue 1

Full text available:  [pdf\(26.30 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

The article presents the software architecture and implementation of the problem-solving environment (PSE) PELLPACK for modeling physical objects described by partial differential equations (PDEs). The scope of this PSE is broad, as PELLPACK incorporates many PDE solving systems, and some of these, in turn, include several specific PDE solving methods. Its coverage for 1D, 2D, and 3D elliptic or parabolic problems is quite broad, and it handles some hyperbolic problems. Since a PSE should p ...

**Keywords:** PDE language, execution models, knowledge bases, libraries, parallel reuse methodologies, problem-solving environments, programming-in-the-large, sofeware bus

#### **17 Efficient recompilation of module interfaces in a software development environment**

Hausi A Muller, Robert Hood, Ken Kennedy

January 1987 **ACM SIGPLAN Notices , Proceedings of the second ACM SIGSOFT/SIGPLAN software engineering symposium on Practical software development environments**, Volume 22 Issue 1

Full text available:  [pdf\(856.34 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

This paper presents global interface analysis algorithms that analyze and limit the effects of an editing change to a basic interface of a software system. The algorithms improve on the deficiencies of the traditional compilation rule found in strongly-typed, separately-compiled programming languages, which often forces the recompilation of modules that are not at all affected by a change to a basic interface. The algorithms assume a software development environment that pr ...

#### **18 Future of simulation: Simulation in the international IMS MISSION project: the IMS MISSION architecture for distributed manufacturing simulation**

Charles McLean, Frank Riddick

December 2000 **Proceedings of the 32nd conference on Winter simulation**

Full text available:  [pdf\(269.47 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

This paper presents an overview of a neutral reference architecture for integrating distributed manufacturing simulation systems with each other, with other manufacturing software applications, and with manufacturing data repositories. Other manufacturing software applications include, but are not limited to systems used to: 1) design products, 2) specify processes, 3) engineer manufacturing systems, and 4) manage production. The architecture identifies the software building blocks and interface ...

#### **19 Searching for unity among diversity: exploring the "interface" concept**

Kari Kuutti, Liam J. Bannon

May 1993 **Proceedings of the SIGCHI conference on Human factors in computing systems**

Full text available:  [pdf\(796.52 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Despite widespread interest in the human-computer interaction (HCI) field, there remains much debate as to appropriate conceptual frameworks for the field, and even confusion surrounding the meaning of basic terms in the field. HCI is seen by many as focusing on the design of interfaces to computer systems, yet exactly what is implied by this focus on "interfaces" is unclear. In this paper we show how a better understanding of what is meant by the interface is possible via the c ...

**Keywords:** abstraction levels, activity theory, interface, user interface management systems

## 20 Aspects: Variability management with feature-oriented programming and aspects

Mira Mezini, Klaus Ostermann

October 2004 **Proceedings of the 12th ACM SIGSOFT twelfth international symposium on Foundations of software engineering**

Full text available:  [pdf\(201.71 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

This paper presents an analysis of feature-oriented and aspect-oriented modularization approaches with respect to variability management as needed in the context of system families. This analysis serves two purposes. On the one hand, our analysis of the weaknesses of feature-oriented approaches (FOAs for short) emphasizes the importance of crosscutting modularity as supported by the aspect-oriented concepts of pointcut and advice. On the other hand, by pointing out some of AspectJ's weaknesses ...

**Keywords:** aspect-oriented, feature-oriented, product lines, variability management

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Relevance scale **1** The DoD high level architecture: an update

Judith Dahmann, Richard M. Fujimoto, Richard M. Weatherly

December 1998 **Proceedings of the 30th conference on Winter simulation**Full text available:  [pdf\(89.53 KB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)**2** Portable serialization of CORBA objects: a reflective approach

Marc-Olivier Killijian, Juan-Carlos Ruiz, Jean-Charles Fabre

November 2002 **ACM SIGPLAN Notices , Proceedings of the 17th ACM SIGPLAN conference on Object-oriented programming, systems, languages, and applications**, Volume 37 Issue 11Full text available:  [pdf\(576.49 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

The objective of this work is to define, implement and illustrate a portable serialization technique for CORBA objects. We propose an approach based on reflection: through open compilers facilities the internal state of CORBA objects is obtained and transformed into a language independent format using CORBA mechanisms. This state can be restored and used by objects developed using different languages and running on different software platforms. A tool was developed and applied to a Chat applicat ...

**Keywords:** CORBA, open compilers, portability, reflection, serialization**3** Distributed programming with intermediate IDL

Gary W. Smith, Richard A. Volz

June 1999 **ACM SIGAda Ada Letters , Proceedings of the ninth international workshop on Real-time Ada**, Volume XIX Issue 2Full text available:  [pdf\(484.55 KB\)](#) Additional Information: [full citation](#), [abstract](#), [index terms](#)

Several heterogeneous-language distributed programming systems have been developed which either use an explicit Interface Definition Language (IDL) for the specification of distributed objects or which directly translate server language specifications to corresponding client language representations. In this paper, we present a new approach which combines the advantages of these prior systems. Our approach uses an IDL as an implicit intermediate step in the translation from server to client lang ...

#### 4 Customizing IDL mappings and ORB protocols

Girish Welling, Maximilian Ott

April 2000 **IFIP/ACM International Conference on Distributed systems platforms**

Full text available:  [pdf\(293.12 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#)

Current mappings of IDL to implementation languages such as C++ or Java use CORBA specific data-types, which makes it imperative for an object implementation to be CORBA-compliant. While being completely CORBA-compliant ensures portability and interoperability, several classes of enterprise applications may only require interoperability with other CORBA applications. Other applications may be constrained by such factors as a large existing code-base or a widely used communication ...

#### 5 Covering the life cycle with Ada: Ada all the way

George W. Cherry

July 1989 **Proceedings of the sixth Washington Ada symposium on Ada**

Full text available:  [pdf\(2.36 MB\)](#) Additional Information: [full citation](#), [references](#), [index terms](#)

#### 6 A reusable architecture for simulations

Judith S. Dahmann, James O. Calvin, Richard M. Weatherly

September 1999 **Communications of the ACM**, Volume 42 Issue 9

Full text available:  [pdf\(57.09 KB\)](#)  [html\(30.35 KB\)](#) Additional Information: [full citation](#), [references](#), [index terms](#)

#### 7 Distributed simulation modeling: a comparison of HLA, CORBA, and RMI

Arnold Buss, Leroy Jackson

December 1998 **Proceedings of the 30th conference on Winter simulation**

Full text available:  [pdf\(62.71 KB\)](#) Additional Information: [full citation](#), [references](#), [index terms](#)

#### 8 Semantic data modeling of hypermedia associations

John L. Schnase, John J. Leggett, David L. Hicks, Ron L. Szabo

January 1993 **ACM Transactions on Information Systems (TOIS)**, Volume 11 Issue 1

Full text available:  [pdf\(1.64 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

Many important issues in the design and implementation of hypermedia system functionality focus on the way interobject connections are represented, manipulated, and stored. A prototypic system called HB1 is being designed to meet the storage needs of next-generation hypermedia system architectures. HB1 is referred to as a hyperbase management system (HBMS) because it supports, not only the storage and manipulation of information, but the storage and manipulation of the connectivity data tha ...

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Relevance scale **1 IDL: sharing intermediate representations**

David Alex Lamb

July 1987 **ACM Transactions on Programming Languages and Systems (TOPLAS)**,  
Volume 9 Issue 3Full text available:  [pdf\(1.77 MB\)](#)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

IDL (Interface Description Language) is a practical and useful tool for controlling the exchange of structured data between different components of a large system. IDL is a notation for describing collections of programs and the data structures through which they communicate. Using IDL, a designer gives abstract descriptions of data structures, together with representation specifications that specialize the abstract structures for particular programs. A tool, the IDL translator, generates r ...

**2 Web-based specification and integration of legacy services**

Ying Zou, Kostas Kontogiannis

November 2000 **Proceedings of the 2000 conference of the Centre for Advanced Studies on Collaborative research**Full text available:  [pdf\(279.28 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

With the explosive growth of the Internet, businesses of all sizes aim on applying networkwide solutions to their IT infrastructures, migrating their legacy business processes into web-based environments, and establishing their own on-line services. To facilitate process and service integration, a complete and information rich service description language, is essential for server processes to be specified and for client processes to be able to locate services that are available in Web-enabled re ...

**3 Customizing IDL mappings and ORB protocols**

Girish Welling, Maximilian Ott

April 2000 **IFIP/ACM International Conference on Distributed systems platforms**Full text available:  [pdf\(293.12 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#)

Current mappings of IDL to implementation languages such as C++ or Java use CORBA specific data-types, which makes it imperative for an object implementation to be CORBA-compliant. While being completely CORBA-compliant ensures portability and interoperability, several classes of enterprise applications may only require interoperability with other CORBA applications. Other applications may be constrained by such factors as a large existing code-base or a widely used communicatio ...

**4 Extending IDL to support concurrent views**

D. Garlan

November 1987 **ACM SIGPLAN Notices**, Volume 22 Issue 11Full text available:  [pdf\(1.07 MB\)](#) Additional Information: [full citation](#), [abstract](#), [citations](#), [index terms](#)

Derivation and refinement in IDL currently provide kinds of *views* in the sense that two IDL structures can describe the same data in different ways. But derivation and refinement are limited in that (a) they do not support concurrent access to shared information and (b) the range of differences between derived views is quite restricted. In this paper we outline an architecture in which IDL is extended to correct these problems. This design allows a collection of IDL-based tools to access ...

**5 IDL as a data description language for a programming environment database**

T. Didriksen, A. Lie, R. Conradi

November 1987 **ACM SIGPLAN Notices**, Volume 22 Issue 11Full text available:  [pdf\(682.52 KB\)](#) Additional Information: [full citation](#), [abstract](#), [citations](#), [index terms](#)

A programming environment (PE) consists of a multitude of different tools. The cooperation between the tools is crucial to the overall functionality and performance of the PE. This paper argues that a common underlying database can facilitate tool cooperation, and that IDL can be used to describe the interface between the tools and the database management system (DBMS).

**6 A framework for event-based software integration**

Daniel J. Barrett, Lori A. Clarke, Peri L. Tarr, Alexander E. Wise

October 1996 **ACM Transactions on Software Engineering and Methodology (TOSEM)**,

Volume 5 Issue 4

Full text available:  [pdf\(413.46 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

Although event-based software integration is one of the most prevalent approaches to loose integration, no consistent model for describing it exists. As a result, there is no uniform way to discuss event-based integration, compare approaches and implementations, specify new event-based approaches, or match user requirements with the capabilities of event-based integration systems. We attempt to address these shortcomings by specifying a generic framework for event-based integration< ...

**Keywords:** CORBA, FIELD, Polylith, control integration, event-based systems, interoperability, reference model, software integration

**7 Technical papers: formal methods I: Cadena: an integrated development, analysis, and verification environment for component-based systems**

John Hatcliff, Xinghua Deng, Matthew B. Dwyer, Georg Jung, Venkatesh Prasad Ranganath

May 2003 **Proceedings of the 25th International Conference on Software Engineering**Full text available:   [pdf\(1.68 MB\)](#) [Publisher Site](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The use of component models such as Enterprise Java Beans and the CORBA Component Model (CCM) in application development is expanding rapidly. Even in real-time safety/mission-critical domains, component-based development is beginning to take hold as a mechanism for incorporating non-functional aspects such as real-time, quality-of-service, and distribution. To form an effective basis for development of such systems, we believe that support for reasoning about correctness properties of component ...

**8 Workshop on compositional software architectures: workshop report**

May 1998 **ACM SIGSOFT Software Engineering Notes**, Volume 23 Issue 3

Full text available:  pdf(2.91 MB) Additional Information: [full citation](#), [index terms](#)

**9 Sharing manufacturing information in virtual enterprises**

Martin Hardwick, David L. Spooner, Tom Rando, K. C. Morris

February 1996 **Communications of the ACM**, Volume 39 Issue 2

Full text available:  pdf(306.11 KB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)



**10 An open distributed architecture for reuse and integration of heterogeneous NLP components**

Rémi Zajac, Mark Casper, Nigel Sharples

March 1997 **Proceedings of the fifth conference on Applied natural language processing**

Full text available:  pdf(778.63 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

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The shift from *Computational Linguistics* to *Language Engineering* is indicative of new trends in NLP. This paper reviews two NLP engineering problems: reuse and integration, while relating these concerns to the larger context of applied NLP. It presents a software architecture which is geared to support the development of a variety of large-scale NLP applications: Information Retrieval, Corpus Processing, Multilingual MT, and integration of Speech Components.



**11 An extensible knowledge base management system for supporting rule-based interoperability among heterogeneous systems**

Stanley Y. W. Su, Herman Lam, Javier Arroyo-Figueroa, Tsae-Feng Yu, Zhidong Yang

December 1995 **Proceedings of the fourth international conference on Information and knowledge management**

Full text available:  pdf(1.17 MB) Additional Information: [full citation](#), [references](#), [index terms](#)



**12 Application of object-oriented technology for integrating heterogeneous database systems**

Bhavani Thuraisingham

February 1995 **Proceedings of the 1995 ACM 23rd annual conference on Computer science**

Full text available:  pdf(659.19 KB) Additional Information: [full citation](#), [references](#), [index terms](#)



**13 Making sense of software engineering environment framework standards**

Barbara Cuthill

December 1994 **StandardView**, Volume 2 Issue 4

Full text available:  pdf(1.67 MB) Additional Information: [full citation](#), [references](#), [index terms](#)



**14 Integral closure of Noetherian rings**

Patrizia Gianni, Barry Trager

July 1997 **Proceedings of the 1997 international symposium on Symbolic and**



**algebraic computation**Full text available:  pdf(766.82 KB) Additional Information: [full citation](#), [references](#), [index terms](#)**15 Business-to-business interactions: issues and enabling technologies**

B. Medjahed, B. Benatallah, A. Bouguettaya, A. H. H. Ngu, A. K. Elmagarmid

May 2003 **The VLDB Journal — The International Journal on Very Large Data Bases**,  
Volume 12 Issue 1Full text available:  pdf(558.34 KB) Additional Information: [full citation](#), [abstract](#), [index terms](#)

Business-to-Business (B2B) technologies pre-date the Web. They have existed for at least as long as the Internet. B2B applications were among the first to take advantage of advances in computer networking. The Electronic Data Interchange (EDI) business standard is an illustration of such an early adoption of the advances in computer networking. The ubiquity and the affordability of the Web has made it possible for the masses of businesses to automate their B2B interactions. However, several issu ...

**Keywords:** B2B Interactions, Components, E-commerce, EDI, Web services, Workflows, XML

**16 Measuring the performance of communication middleware on high-speed networks**

Aniruddha Gokhale, Douglas C. Schmidt

August 1996 **ACM SIGCOMM Computer Communication Review , Conference proceedings on Applications, technologies, architectures, and protocols for computer communications**, Volume 26 Issue 4Full text available:  pdf(270.13 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Conventional implementations of communication middleware (such as CORBA and traditional RPC toolkits) incur considerable over-head when used for performance-sensitive applications over high-speed networks. As gigabit networks become pervasive, inefficient middleware will force programmers to use lower-level mechanisms to achieve the necessary transfer rates. This is a serious problem for mission/life-critical applications (such as satellite surveillance and medical imaging).This paper compares t ...

**17 Ada 83/95 binding to OSF's distributed computing environment (DCE)**

Richard Kram, Ed Gallagher, Jeffrey Den Bleyker, Howard Eng

November 1995 **Proceedings of the conference on TRI-Ada '95: Ada's role in global markets: solutions for a changing complex world**Full text available:  pdf(1.25 MB) Additional Information: [full citation](#), [references](#)**18 An extensible programming environment for Modula-3**

Mick Jordan

October 1990 **ACM SIGSOFT Software Engineering Notes , Proceedings of the fourth ACM SIGSOFT symposium on Software development environments**, Volume 15 Issue 6Full text available:  pdf(1.33 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

This paper describes the design and implementation of a practical programming environment for the Modula-3 programming language. The environment is organised around an extensible intermediate representation of programs and makes extensive use of reusable components. The environment is implemented in Modula-3 and exploits some of the novel features of the language.

**19 FORTRAN FUTURES: Abstracts**December 1998 **ACM SIGPLAN Fortran Forum**, Volume 17 Issue 3Full text available: [pdf\(665.29 KB\)](#) Additional Information: [full citation](#)**20 ProtoMol, an object-oriented framework for prototyping novel algorithms for molecular dynamics**

Thierry Matthey, Trevor Cickovski, Scott Hampton, Alice Ko, Qun Ma, Matthew Nyerges, Troy Raeder, Thomas Slabach, Jesús A. Izaguirre

September 2004 **ACM Transactions on Mathematical Software (TOMS)**, Volume 30 Issue 3Full text available: [pdf\(911.92 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

ProtoMol is a high-performance framework in C++ for rapid prototyping of novel algorithms for molecular dynamics and related applications. Its flexibility is achieved primarily through the use of inheritance and design patterns (object-oriented programming). Performance is obtained by using templates that enable generation of efficient code for sections critical to performance (generic programming). The framework encapsulates important optimizations that can be used by developers, such as parallel ...

**Keywords:** Fast electrostatic methods, incremental parallelism, molecular dynamics, multigrid, multiple time-stepping integration, object-oriented framework.

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**1 Why IDLs are Not Ideal**

A. Kaplan, J. Ridgway, J. C. Wileden

April 1998 **Proceedings of the 9th International Workshop on Software Specification and Design**

Full text available:

 [pdf\(51.63 KB\)](#) 

Additional Information: [full citation](#)

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**2 A distributed networking system for multimedia internet access service using ATM over ADSL**

Daniel Won-Kyu Hong, Choong Seon Hong

November 2004 **International Journal of Network Management**, Volume 14 Issue 6

Full text available:

 [pdf\(608.19 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)



This paper proposes a distributed networking system architecture for Internet-access service provision using ATM over xDSL technology. We describe the hierarchical network model in deploying ADSL services across the ATM access networks, which can easily accommodate the explosive growth of ADSL subscribers in the future. In addition, this paper describes the distributed networking system and its capability to provide a systemic network management using the principal networking concepts of serv ...

**3 Using interface inheritance to address problems in system software evolution**



Graham Hamilton, Sanjay Radia

August 1994 **ACM SIGPLAN Notices, Proceedings of the workshop on Interface definition languages**, Volume 29 Issue 8

Full text available:

 [pdf\(927.91 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [index terms](#)

Two specific problems faced in large distributed systems are (1) evolving and managing different versions of an interface while minimizing the impact on existing clients, and (2) supporting the addition of auxiliary interfaces that are orthogonal to the main interface of an abstraction. In the context of the Spring distributed system, we addressed both problems using an object-oriented interface definition language. Different versions of an interface are represented as different types with an inh ...

**4 Interactive design language: A unified approach to hardware simulation, synthesis and documentation**



L. I. Maissel, D. L. Ostapko

January 1982 **Proceedings of the 19th conference on Design automation**

Full text available: [!\[\]\(397cc4c04b5e7ea225dbaa029a5dee1f\_img.jpg\) pdf\(797.73 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

IDL is a hardware design language in use in the VLSI environment. It incorporates a significant number of high-level features such as groups, subroutines, and labels and is particularly well adapted to dealing with parallelism at the hardware level. In addition to being human intelligible (and therefore appropriate as a documentation medium), IDL code can be used to generate 2-level logic which, under the IDL system, can be manipulated in a number of ways, including product term factoring a ...

## 5 COSS: the common object services specifications

Bruce E. Martin

May 1994 **ACM SIGMOD Record, Proceedings of the 1994 ACM SIGMOD international conference on Management of data**, Volume 23 Issue 2

Full text available: [!\[\]\(9f63f5ec98cc2eddf66038fdc55c1091\_img.jpg\) pdf\(88.41 KB\)](#) Additional Information: [full citation](#), [references](#), [index terms](#)

## 6 Towards a model-driven approach to build component-based adaptable middleware

Romain Rouvoy, Philippe Merle

October 2004 **Proceedings of the 3rd workshop on Adaptive and reflective middleware**

Full text available: [!\[\]\(e088a60aba18ad7619b846dde34cd067\_img.jpg\) pdf\(310.93 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Adaptability is one of the goals that applications and middleware frameworks are trying to achieve. On one hand, the component paradigm is a way of reaching this goal by enforcing the reusability of functionalities involved in a component-based middleware framework. In particular, reflection could be combined with components to improve the adaptability of the structure of their assemblies. On the other hand, the model driven paradigm provides an efficient way to describe an application with e ...

**Keywords:** CBAM, Component-Based Adaptive Middleware, MDSE, components, models, transactions

## 7 Language features for interoperability of databases with schematic discrepancies

Ravi Krishnamurthy, Witold Litwin, William Kent

April 1991 **ACM SIGMOD Record, Proceedings of the 1991 ACM SIGMOD international conference on Management of data**, Volume 20 Issue 2

Full text available: [!\[\]\(8666c9b3547f1b159cfa188cdad63d82\_img.jpg\) pdf\(1.12 MB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

## 8 Subcontract: a flexible base for distributed programming

Graham Hamilton, Michael L. Powell, James G. Mitchell

December 1993 **ACM SIGOPS Operating Systems Review, Proceedings of the fourteenth ACM symposium on Operating systems principles**, Volume 27 Issue 5

Full text available: [!\[\]\(7349b8cb1ec6d06b56c460cf745b37fb\_img.jpg\) pdf\(1.16 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

A key problem in operating systems is permitting the orderly introduction of new properties and new implementation techniques. We describe a mechanism, subcontract, that within the context of an object-oriented distributed system permits application programmers control over fundamental object mechanisms. This allows programmers to define new object communication mechanisms without modifying the base system. We describe how new

subcontracts can be introduced as alternative communication mechanism ...

**9 Active services for federated databases**

Genoveva Vargas-Solar, Christine Collet, Helena G. Ribeiro

March 2000 **Proceedings of the 2000 ACM symposium on Applied computing**

Full text available:  [pdf\(637.84 KB\)](#)

Additional Information: [full citation](#), [references](#), [index terms](#)

**Keywords:** active databases, federated database systems, unbundling active capabilities

**10 Transitioning a model-based software engineering architectural style to Ada 95**

Anthony Gargaro, A. Spencer Peterson

November 1995 **Proceedings of the conference on TRI-Ada '95: Ada's role in global markets: solutions for a changing complex world**

Full text available:  [pdf\(2.42 MB\)](#)

Additional Information: [full citation](#), [references](#)

**11 An IDL to Ada95 mapping to support propagation modeling**

D. Needham, S. Demurjian, T. Peters

March 2000 **ACM SIGAda Ada Letters**, Volume XX Issue 1

Full text available:  [pdf\(650.18 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#)

Representing dynamic interdependencies between design objects is an essential part of modeling the critical software communications found in complex software systems. This paper investigates the modeling of propagations (our term for dynamic interdependencies), which are captured using design-level triggers for specifying dynamic behavior across object types. We focus on the CORBA-compliant utilization of our propagation model to support distributed, propagation-focused applications. We develop ...

**12 Adding more "DL" to IDL: towards more knowledgeable component inter-operability**

Alex Borgida, Premkumar Devanbu

May 1999 **Proceedings of the 21st international conference on Software engineering**

Full text available:  [pdf\(1.16 MB\)](#)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

**13 The distributed interoperable object model and its application to large-scale interoperable database systems**

Ling Liu, Calton Pu

December 1995 **Proceedings of the fourth international conference on Information and knowledge management**

Full text available:  [pdf\(890.48 KB\)](#)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

**14 UML 2001: a standardization odyssey**

Cris Kobryn

October 1999 **Communications of the ACM**, Volume 42 Issue 10

Full text available:  [pdf\(126.96 KB\)](#)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

 [html\(42.08 KB\)](#)

## **15 Object lessons learned from a distributed system for remote building monitoring and operation**

Frank Olken, Hans-Arno Jacobsen, Chuck McParland, Mary Ann Piette, Mary F. Anderson  
October 1998 **ACM SIGPLAN Notices, Proceedings of the 13th ACM SIGPLAN conference on Object-oriented programming, systems, languages, and applications**, Volume 33 Issue 10

Full text available:  [pdf\(1.54 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

In this paper we describe our experiences with the design, the deployment, and the initial operation of a distributed system for the remote monitoring and operation of multiple heterogeneous commercial buildings across the Internet from a single control center. Such systems can significantly reduce building energy usage. Our system is distinguished by its ability to interface to multiple heterogeneous legacy building Energy Management Control Systems (EMCSs), its use of the Common Object Request ...

## **16 DIRECT: a query facility for multiple databases**

Ulla Merz, Roger King  
October 1994 **ACM Transactions on Information Systems (TOIS)**, Volume 12 Issue 4

Full text available:  [pdf\(2.77 MB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#), [review](#)

The subject of this research project is the architecture and design of a multidatabase query facility. These databases contain structured data, typical for business applications. Problems addressed are: presenting a uniform interface for retrieving data from multiple databases, providing autonomy for the component databases, and defining an architecture for semantic services. DIRECT is a query facility for heterogeneous databases. The databases and their definitions can differ in ...

**Keywords:** data models, heterogeneous databases, query languages

## **17 OMG overview: CORBA and the OMA in enterprise computing**

Jon Siegel  
October 1998 **Communications of the ACM**, Volume 41 Issue 10

Full text available:  [pdf\(148.89 KB\)](#)

Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

## **18 Multi-client LAN/WAN performance analysis of Ninf: a high-performance global computing system**

Atsuko Takefusa, Satoshi Matsuoka, Hirotaka Ogawa, Hidemoto Nakada, Hiromitsu Takagi, Mitsuhsisa Sato, Satoshi Sekiguchi, Umpei Nagashima  
November 1997 **Proceedings of the 1997 ACM/IEEE conference on Supercomputing (CDROM)**

Full text available:  [pdf\(169.71 KB\)](#)

Additional Information: [full citation](#), [abstract](#), [references](#)

Rapid increase in speed and availability of network of supercomputers is making high-performance global computing possible, including our *Ninf* system. However, critical issues regarding system performance characteristics in global computing have been little investigated, especially under multi-client, multi-site WAN settings. In order to investigate the feasibility of *Ninf* and similar systems, we conducted benchmarks under various LAN and WAN environments, and observed the following resul ...

**Keywords:** global network computing, performance evaluation

**19** Topical papers: Quasi-destructive graph unification with structure-sharing

Hideto Tomabechi

August 1992 **P** r eedings f the 14th c nference n C mputati nal linguistics - V lume 2Full text available: [pdf\(544.00 KB\)](#)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

Graph unification remains the most expensive part of unification-based grammar parsing. We focus on one speed-up element in the design of unification algorithms: avoidance of copying of unmodified subgraphs. We propose a method of attaining such a design through a method of structure-sharing which avoids  $\log(d)$  overheads often associated with structure-sharing of graphs without any use of costly dependency pointers. The proposed scheme eliminates *redundant copying* while maintaining the qu ...

**20** Experience with the ODMG standard

Rick Cattell

September 1995 **S**tandard**V**iew, Volume 3 Issue 3Full text available: [pdf\(214.23 KB\)](#)Additional Information: [full citation](#), [references](#), [index terms](#)

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S4	8	("5495567"   "5550971"   "5920725"   "5970490"   "6012067"   "6289382"   "6349302"   "6430556").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2004/12/17 16:16
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